July 19, 1938. J. W. PHILLIPS 2,124,430

BUILDING CONSTRUCTION AND BLOCK THEREFOR

Filed March 27, 1937 2 Sheets-Sheet 1

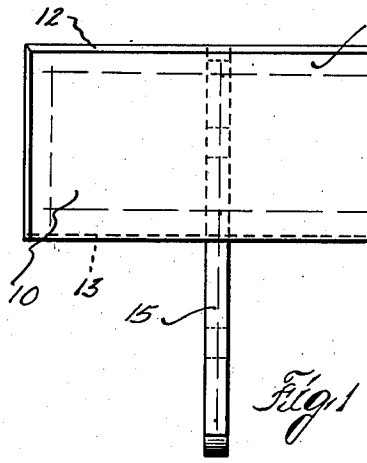


Fig. 1

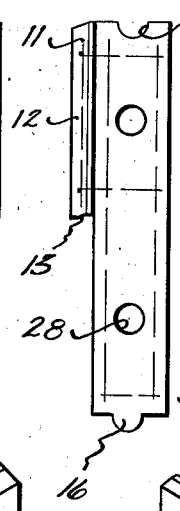


Fig. 2

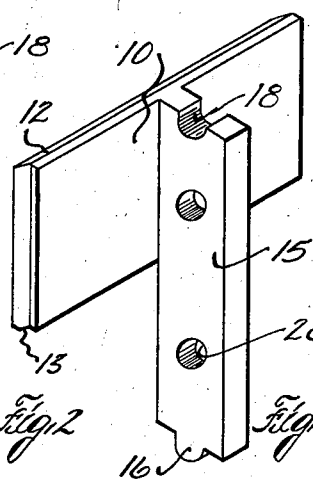


Fig. 3

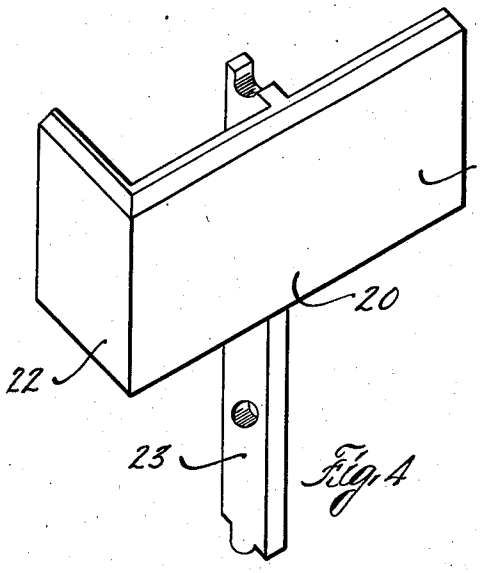


Fig. 4

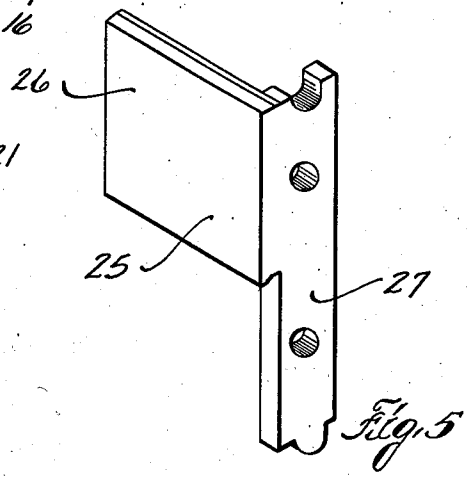


Fig. 5

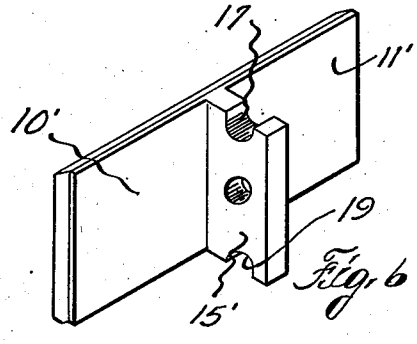


Fig. 6

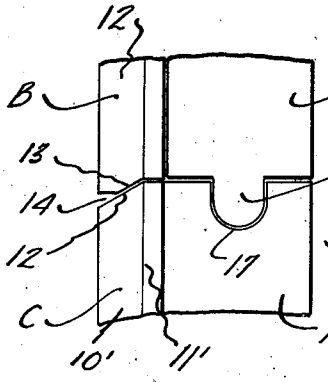


Fig. 7

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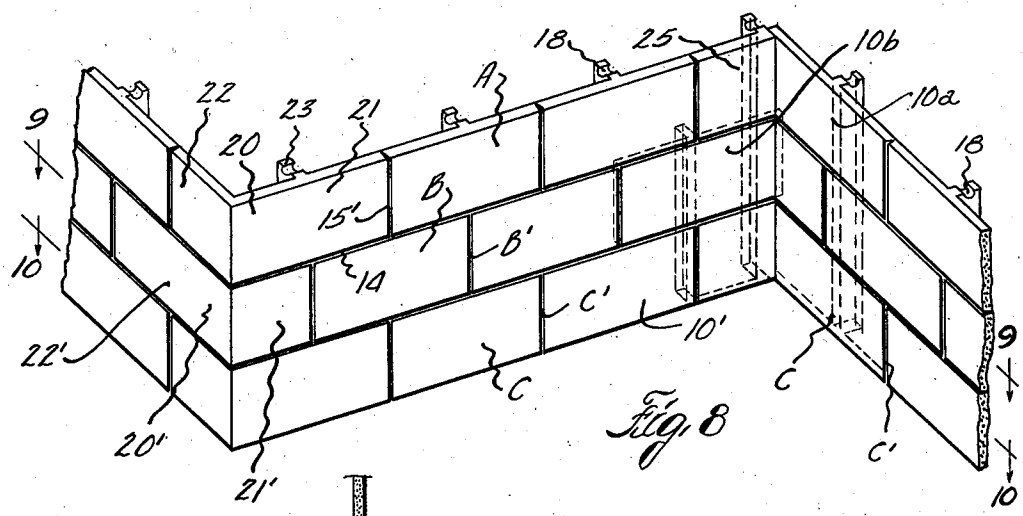


Fig. 8

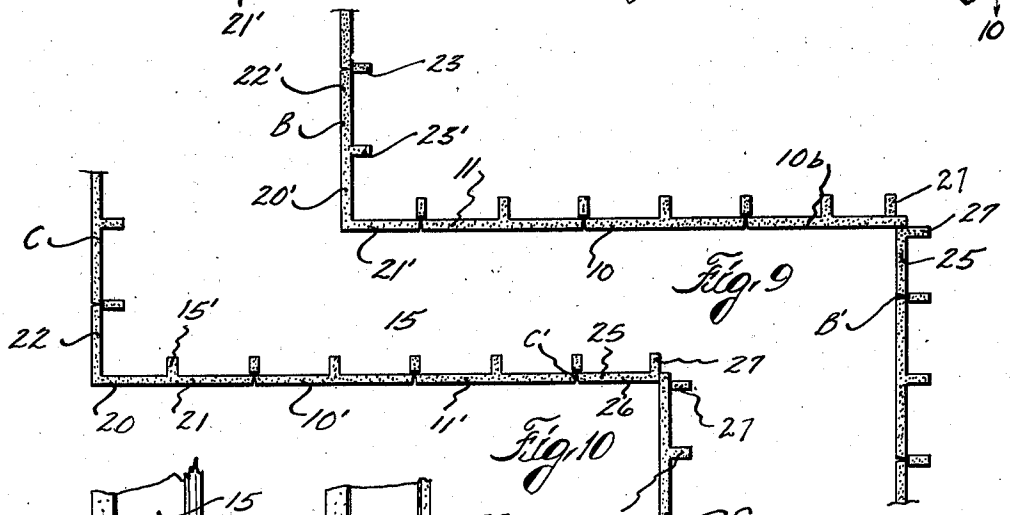


Fig. 9

Fig. 10

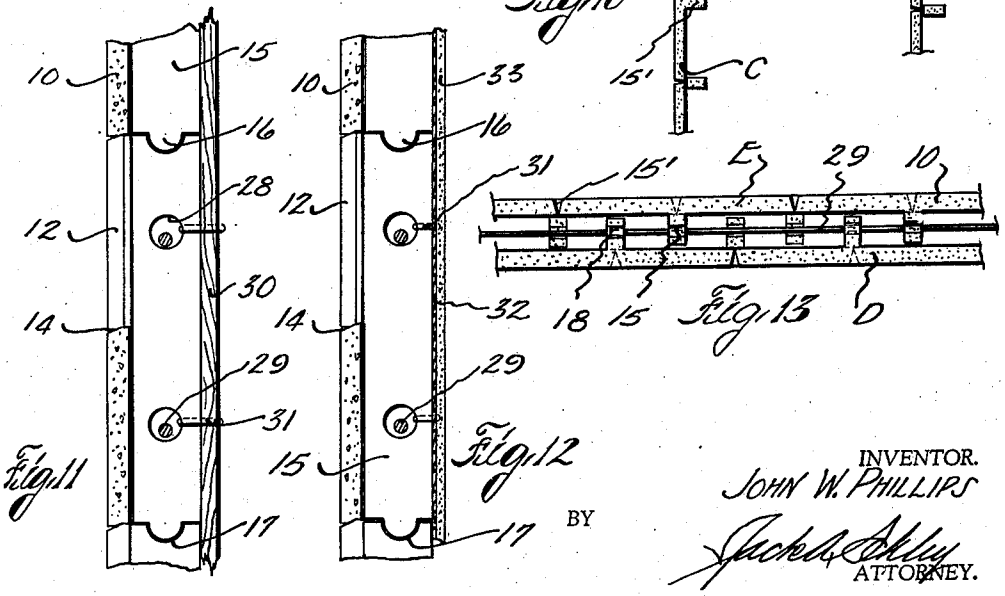


Fig. 11

Fig. 12

Fig. 13

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2,124,430

BUILDING CONSTRUCTION AND BLOCK THEREFOR

John W. Phillips, San Antonio, Tex.

Application March 27, 1937, Serial No. 133,296

13 Claims. (Cl. 72—39)

This invention relates to new and useful improvements in building construction and blocks therefor.

One object of the invention is to provide an improved wall structure for buildings which is self sustaining and which is readily assembled.

An important object of the invention is to provide improved blocks made of cementitious or ceramic material for use in constructing building walls and the like, which blocks have means for interlocking with each other when assembled, and wherein the wall studding is formed by webs which are integral with the blocks, whereby a substantial and rigid wall construction is produced.

Another object of the invention is to provide an improved block for building construction having a vertical web extending from the face thereof, said web extending beyond the edge of the block whereby it may overlap the adjacent block to reinforce and brace both blocks and the joint therebetween; said web also alining with the web of the second block therebelow and the second block thereabove and being arranged to interlock with said webs whereby a continuous vertical stud is formed throughout the superposed blocks to form a wall structure which has its studding substantially throughout its face.

A further object of the invention is to provide an improved building construction formed of blocks of molded cementitious or ceramic material, wherein the blocks may be utilized to form two wall sections spaced from each other by vertical studding, the studs of each section engaging the rear face of the opposite section and being located in alternate relation to the studs of said other section, whereby the two sections provide a hollow wall structure which may receive insulating or other suitable material.

Still another object of the invention is to provide an improved precast tile block forming a building wall or the like, and which is so constructed that the building wall composed of said blocks may have any desired number of corners or windows; said blocks also having means for securing wooden batten strips, metal lath or sheathing directly thereto.

A construction designed to carry out the invention will be hereinafter described, together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown, and wherein:

Figure 1 is a front elevation of a block, constructed in accordance with the invention,

Figure 2 is a side elevation thereof,

Figure 3 is an isometric view of the rear thereof,

Figure 4 is an isometric view of one of the outside corner blocks,

Figure 5 is an isometric view of a block to be employed at the inside corners of the wall and also for use at openings such as windows in the wall,

Figure 6 is a rear isometric view of a block for use against the foundation beam and also for use at lintels over doors and windows,

Figure 7 is an enlarged detail elevation of the interlocking construction between the webs of the blocks,

Figure 8 is an isometric view of a part of a wall constructed with the blocks,

Figure 9 is a horizontal, cross-sectional view, taken through the wall along the line 9—9 of Figure 8,

Figure 10 is a similar view, taken on the line 10—10 of Figure 8,

Figure 11 is a transverse vertical, sectional view taken through a portion of the wall structure and showing wooden batten strips attached to the wall,

Figure 12 is a similar view, showing metal lath secured to said wall, and

Figure 13 is a horizontal, cross-sectional view taken through a hollow wall constructed of the blocks and showing the method of securing the wall sections together.

In the drawings, the numeral 10 designates a block which is preferably constructed of concrete, although it may be made of any cementitious or ceramic material. The block includes a slab 11 having a substantially rectangular shape and the upper and side edges of the block are chamfered or beveled at 12 (Figure 3). The lower edge of the slab is inclined downwardly and directed forwardly as shown at 13 in Figure 7, whereby when two of the blocks are placed one upon the other in forming a wall, as will be explained, the inclined lower edge 13 of the upper slab rests on the beveled upper edge 12 of the lower slab. Since a portion of the lower edge 13 is directed forwardly its inclined portion is shorter than the bevel 12 and therefore, a horizontal space or groove 14 is formed at the joint between the slabs.

Each slab has a vertical web or rib 15 on its rear face and this slab is preferably formed integral with the slab. As before stated, the block

is preferably constructed of concrete, in which case its web or rib is made of the same material. The web is disposed centrally of the slab and extends from the upper edge thereof to a point beyond the lower edge thereof. It is preferable that the length of the web be twice the width of the slab 11, whereby the projection of said web is equal to twice the width of said slab. With such arrangement, when the blocks are placed one upon the other, the web or rib of the uppermost block extends downwardly behind the next block therebelow, whereby said rib or web not only reinforces the slab with which it is made integral but also reinforces or braces the block immediately therebelow.

In constructing a wall of the blocks 10, said blocks are placed one upon the other in rows A, B, and C, as shown in Figure 8. The number of rows is, of course, dependent upon the height of the wall to be built. The slabs in the uppermost row shown have their ends or vertical edges engaging and due to the bevel 12 of these edges, an outside vertical groove 15' is formed therebetween. The blocks of the row A are staggered with relation to the blocks of the row B, whereby the joint B' between the slabs of the latter is located centrally beneath the slabs of the row A. This causes the web 15 of each block in the row A to extend downwardly behind one of the joints B' of the row B, whereby said joints are reinforced, and braced. Since the length of each web is twice the width of the slab, it will be obvious that the lower end of each web depending from the blocks in the row A terminates opposite the horizontal grooves 14 at the joint between the row B and row C.

The blocks 10' in the lowermost row C are staggered with relation to the blocks in the row B thereabove, and are therefore, located in vertical alinement with the blocks in the row A, whereby the vertical joints C' between these blocks are directly below the vertical joints A' between the blocks in row A. This places the web 15' of each block in the bottom row C in vertical alinement with the web 15 of one of the blocks 10 in row A, whereby the ends of said webs engage each other. Since the blocks 10' in the lowermost row rest on the foundation, or other supporting structure (not shown), the web 15' of each of these blocks terminates at the lower edge of the slab 11' thereof, as is clearly shown in Figure 6.

For securing the webs 15 of the blocks in row A to the web 15' of the blocks, the lower end of each web 15 is provided with a dowel or lug 16 (Figure 3) while the upper end of each web 15 is formed with a complementary recess or groove 17 for receiving the same. The insertion of the lug in said recess provides an interlocking connection between said webs, whereby displacement of the webs from each other is prevented and the effect of a vertical continuous stud along the rear of the blocks is obtained. Each web 15 of the blocks in the row A has a recess or groove 18, similar to the recess 17 in the web 15', for the reception of the dowel or lug 16 on the web of the blocks thereabove (not shown). Thus, it will be seen that the webs of every other row of blocks are interlocked and form a vertical continuous stud which is substantially integral with the blocks and which reinforces the vertical joints of the blocks between such alternate rows.

The blocks 10 of the row B in Figure 8, are of the same structure as the blocks of the row A and have their webs 15 extending downwardly to overlap and reinforce the joints C' between the blocks 10' in the row C. The lower ends of these webs of course, terminate in alinement with the lower end of the slabs 11' of said blocks 10' and rest on the foundation, or other supporting structure. It is pointed out that the lower ends of the webs 15' may have suitable recesses 19 for the reception of lugs (not shown) on the foundation wall, and the webs 15 of the blocks of the row B may be similarly formed. The upper end of each web of the blocks in the row B are provided with the recesses 18 to receive the lugs 16 of the webs of the row of blocks (not shown) which are placed on the row A. From the above, it is manifest that the slabs form the face of the wall, while the vertical interlocked webs form studs which extend throughout the height of the wall and which reinforce and brace the vertical and horizontal joints between the slabs of the blocks.

The blocks 10' are not only adaptable for the lowermost supporting row C, but also are employed on the lintels over doors and windows. The shortened web 15' terminating an alinement with the lower edge of the slab 11' makes them adaptable for this purpose. The blocks 10 are, of course, utilized to form the wall proper with the exception of the corners and are all of the same construction.

For forming the outside corner of the wall, an angular block 20 (Figure 4) is provided. This block includes an angular slab wherein one section 21 is disposed at substantially a right angle to the other section 22, with the sections being integral. The section 21 is longer than the section 22 and has a web or rib 23 which is made exactly as the web 18 of the block 10 on its rear face. The block 20 is mounted in the row A between blocks 10 of that row and, as clearly shown in Figure 8, forms the outside corner of the wall. A similar block 20' is mounted below the block 20 in the row B and has its section 21' shorter than its other section 22'. The rib or web on the rear face of this block is on the enlarged section 22'. The structure of the block 20' is varied to fit the corner in view of the staggered mounting of the blocks in the row B. Manifestly, the corner blocks 20 and 20' are located in alternate rows throughout the height of the wall.

For forming the inside corners of the wall, a block 25 (Figure 5) is provided. This block includes a slab 26 which is one half the length of the slab 11 of the blocks 10. A vertical web or rib 27 constructed exactly as the rib 18 on each block 10 is located at one end of the slab instead of centrally thereof. The blocks 25 are used in making inside corners and also for the sides of windows, doors, or other openings where it is desired that the wall terminate in a vertical straight line. The use of these blocks is clearly shown in Figure 8, where one of said blocks is mounted in the row A. The web 27 of this block abuts the face of the next block 10*a* which is disposed at substantially a right angle to the blocks 10 of that row whereby a corner is formed. The outer vertical edges of the slab and web of the block 25 terminate short of the vertical edge of the block 10*b* in the row B therebelow, whereby the block 10*a* of the row A rests on the extended end of the block 10*b* directly below the block 25. A second block 25 is located in the row B below the block 10*a* and abuts the face of the block 10*b*, while a third block 25*b* is located in the row C and abuts the block 10*c* in that row. The blocks 25 are of course, used in this manner in alternate rows throughout the height of the wall and their use provides for an overlapping of the ends of the

corner blocks 10 in alternate rows which make for a substantial wall structure. The webs 27 of the blocks 25 interlock with each other exactly as the webs 15 of the blocks 10.

From the above, it is manifest that a building wall of a most substantial construction may be built. The beveled edges of the slabs of the blocks form vertical and horizontal grooves at the joints of the slabs, whereby stucco, plaster or the like may be keyed to the face of the wall. The vertical studs formed by the interlocked webs reinforce and brace the structure. The webs are provided with openings 28 whereby steel rods 29 may extend therethrough to secure the blocks together and further brace the construction.

The studs not only reinforce the wall but also permit wood batten strips 30 to be secured to the inside of the wall (Figure 11). The strips are fastened to the studs by wire loops 31 which pass through the openings 28 in the studs. Similarly, metal lath 32 (Figure 12) may be fastened to the stud, if desired, by said loops. Plaster or other material 33 may then be applied to the lath.

Although it has been found that a substantial wall may be formed as shown in Figures 8, 9 and 10, it is possible to make a hollow wall structure with the blocks. This construction is shown in Figure 13, where two sections D and E, each like the wall in Figure 8, are built up and placed with their inner faces toward each other. The studs of each section are deposed in alternate relation to each other and the steel rods 29 pass through the openings to secure the sections together. The space between the sections may be filled with concrete or it may be filled with a suitable insulating material. All of the structural advantages of the first form are present in this construction.

The slab and web of each block are preferably integral and therefore may be pre-cast to any shape for special places, such as angles in the wall, sills, ends, doors, etc. The block, being constructed of tile, is light in weight and easy to handle which makes for ease in building the structure. The interlocking of the webs makes the studs substantially integral with the face of the wall.

What I claim and desire to secure by Letters Patent is:

1. A wall structure including, a plurality of superposed blocks, each block having a web on one face thereof which extends downwardly throughout the width of the block therebelow to reinforce the same.

2. A wall structure including, a plurality of blocks mounted one above the other in horizontal rows, the blocks of alternate rows being staggered with relation to each other, and a vertical web on one face of each block extending downwardly therefrom so as to overlie the vertical joint between the blocks immediately therebelow.

3. A wall structure including, a plurality of blocks mounted one above the other in horizontal rows, the blocks of alternate rows being staggered with relation to each other, and an integral web on one face of each block and depending beyond the lower end of said block and extending throughout the width of the block therebelow so as to reinforce the same.

4. A wall structure including, a plurality of blocks mounted one above the other in horizontal rows, the blocks of alternate rows being staggered with relation to each other, a vertical web on one face of each block extending downwardly therefrom so as to overlie the vertical joint between the blocks immediately therebelow, and means for interlocking the webs of the blocks in alternate rows, whereby said interlocked webs form vertical studs throughout the wall structure.

5. A wall structure including, a plurality of blocks mounted one above the other in horizontal rows, the blocks of alternate rows being staggered with relation to each other, a vertical web on one face of each block extending downwardly therefrom so as to overlie the vertical joint between the blocks immediately therebelow, and angular corner blocks each having a vertical web similar to the webs of the first named blocks, the web of each corner block extending downwardly to overlie the next corner block therebelow whereby outside corners may be formed in the wall.

6. A wall structure including, a plurality of blocks mounted one above the other in horizontal rows, the blocks of alternate rows being staggered with relation to each other, a vertical web on one face of each block extending downwardly therefrom so as to overlie the vertical joint between the blocks immediately therebelow, angular corner blocks each having a vertical web similar to the webs of the first named blocks, the web of each corner block extending downwardly to overlie the next corner block therebelow whereby outside corners may be formed in the wall, and inside corner blocks for forming an inside corner in the wall, each of the latter blocks having a length substantially one half the length of the first named blocks and each having a web for overlying the block therebelow.

7. A wall structure including, a plurality of blocks mounted one above the other in horizontal rows, the blocks of alternate rows being staggered with relation to each other, a vertical web on one face of each block extending downwardly therefrom so as to overlie the vertical joint between the blocks immediately therebelow, means for interlocking the webs of the blocks in alternate rows, whereby said interlocked webs form vertical studs throughout the wall structure, and means for mounting lathing on said studs.

8. A wall structure including, a plurality of blocks mounted one above the other in horizontal rows, the blocks of alternate rows being staggered with relation to each other, a vertical web on one face of each block extending downwardly therefrom so as to overlie the vertical joint between the blocks immediately therebelow, means for interlocking the webs of the blocks in alternate rows, whereby said interlocked webs form vertical studs throughout the wall structure, and angular corner blocks each having a vertical web similar to the webs of the first named blocks, the web of each corner block extending downwardly to overlie the next corner block therebelow whereby outside corners may be formed in the wall.

9. A building construction including, a slab block having an integral web formed on one face thereof and projecting beyond the edge of said slab, said projecting portion of the web being substantially equal to the width of the slab.

10. A building block including, a slab having a substantially rectangular shape, and an integral web formed at the central portion of one face of said slab and having a length substantially equal to twice the width of the slab, whereby said web extends throughout the width of the slab and projects substantially the same distance from one edge thereof.

11. A building block including, a slab having

a substantially rectangular shape, an integral web formed at the central portion of one face of said slab and having a length substantially equal to twice the width of the slab whereby said web extends throughout the width of the slab and projects substantially the same distance from one edge thereof, said web having a recess at its upper end, and a lug made integral with its lower end.

12. A building block including, an angular slab having its sections deposed at substantially a right angle to each other, one of said sections being of greater area than the other, and an integral web formed on one face of the larger section and projecting beyond the edge thereof, the projecting portion of the web being substantially equal to the width of the slab.

13. A building block including, a slab having an integral web formed at one transverse end thereof and projecting beyond the longitudinal edge of said slab, the projecting portion of the web being substantially equal to the width of the slab.

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